

**REMARKS**

Applicants have further amended their claims in order to further clarify the definition of various aspects of the present invention. Specifically, Applicants have amended claim 21 to delete recitation that the molecular distillation is performed using a film evaporator.

In light thereof, Applicants have added new claim 33 to the application. This claim 33, dependent on claim 21, recites that the molecular distillation is performed using a film evaporator.

Applicants rely on the arguments made in the Amendment After Final Rejection filed May 5, 2003, as responsive to the Final rejection in the Office Action mailed February 3, 2003. In addition, Applicants provide the following arguments responsive to contentions made by the Examiner in the Advisory Action mailed May 21, 2003.

Applicants respectfully traverse the contention by the Examiner in Item 1 of the Note in connection with refusal by the Examiner to enter the amendments in the Amendment After Final Rejection filed May 5, 2003. Contrary to the contention by the Examiner, it is respectfully submitted that the presently amended claims, including claims 21 and 25, are not inconsistent with the description at page 3, lines 20-24 of the specification of the above-identified application. That is, there is described on this page 3, lines 20-24, an aspect of the present invention which is a process, according to any one of the previous aspects (1) - (3), wherein after the formal compound (contained in a distillate obtained by removing the high-boiling components, having a higher boiling point than that of ditrimethylolpropane) is

subjected to acid decomposition, the resultant product is subjected to crystallization using a solvent. This aspect (5) at page 3, lines 20-24 of Applicants' specification, is subordinate to aspect (1), and this aspect (5) is a process for recovering ditrimethylolpropane from a still residue obtained by extracting and then distilling off trimethylolpropane from a reaction solution obtained by reacting n-butyraldehyde with formaldehyde in the presence of a basic catalyst. A formal component is contained in a distillate when the high-boiling component having a higher boiling point than that of ditrimethylolpropane is removed from the still residue. It is this formal component, contained in the distillate, that is subjected to acid decomposition, according to the present claims and according to Applicants' specification. Thus, it can be seen that the presently amended claims are not inconsistent with the description at, e.g., page 3, lines 20-24, of Applicants' specification.

With respect to Item 2 of the Note in connection with refusal to enter the amendments in the Amendment After Final Rejection filed May 5, 2003, it is respectfully submitted that a film evaporator can be used for molecular distillation. Thus, there is nothing inconsistent with the recitation of using a film evaporator, in connection with the molecular distillation.

In connection with molecular distillation and equipment used therefor, attention is respectfully directed to the attached pertinent pages from the McGraw-Hill Encyclopedia of Science & Technology, Vol. 11 (7<sup>th</sup> Ed. 1992), pages 342-3, describing molecular distillation. Note, for example, the still shown in Fig. 3, using a centrifugal "evaporator" cone. See also the description of "molecular distillation" on

pages 396 and 397 of Treybal, Mass-Transfer Operations (2<sup>nd</sup> Ed. 1968). Contrary to the conclusion by the Examiner, it is respectfully submitted that use of a "film evaporator" is not inconsistent with the recited molecular distillation.

In any event, note that the use of a film evaporator has been deleted from claim 21, with new claim 33 reciting that the molecular distillation is performed using a film evaporator. Clearly, with respect to parent claim 21, any question concerning use of a film evaporator is moot.

Applicants respectfully request an interview with the Examiner prior to a further Office Action on the merits in the above-identified application, to facilitate proceedings in connection with the above-identified application. It is respectfully requested that the Examiner contact the undersigned, prior to conducting a further examination, for purposes of scheduling such interview. The Examiner is thanked in advance for complying with this request.

In view of the foregoing, including in light of the concurrently filed RCE Transmittal, entry of the amendments in the Amendment After Final Rejection filed May 5, 2003, and in the present Supplementing Submission; and, subsequent thereto, scheduling of an interview with the undersigned for discussing the then-pending claims, is respectfully requested.


Attached hereto is a marked-up version of the changes made to the claims by the current Supplementing Submission (Amendment). The changes are shown in the Attachment captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

To the extent necessary, Applicants petition for an extension of time under 37

CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account No. 01-2135 (Case No. 396.40405X00), and please credit any excess fees to such Deposit Account.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

21. (Twice Amended) A process for recovering ditrimethylolpropane by-produced when producing trimethylolpropane by reacting n-butyraldehyde with formaldehyde in the presence of a basic catalyst, and then separating trimethylolpropane by extraction and distillation, with ditrimethylolpropane being recovered from a still residue of said distillation, said process for recovering ditrimethylolpropane comprising:

- i) removing high-boiling components having a higher boiling point than that of ditrimethylolpropane, by molecular distillation, [using a film evaporator,] from said still residue of said distillation for separating trimethylolpropane;
- ii) after said removing high-boiling components, which leaves a remainder of said still residue, subjecting a formal compound contained in the remainder of said still residue to acid decomposition, whereby resulting products of said acid decomposition are formed; and
- iii) recovering dimethylolpropane by subjecting the resulting products of ii) to crystallization using a solvent, after said acid decomposition.